

1           1.    A method of calibrating a digital camera for  
2   ambient light conditions comprising:  
3                measuring the ambient white light intensity;  
4                illuminating a plurality of lights, each of a  
5   different wavelength;  
6                measuring the intensity of each of said lights  
7   together with the white light intensity; and  
8                using said measurements to calibrate said digital  
9   camera for the ambient light conditions.

1           2.    The method of claim 1 wherein measuring the  
2   ambient white light intensity is implemented automatically  
3   in response to a request for calibration.

1           3.    The method of claim 1 wherein measuring the  
2   ambient white light intensity is implemented automatically  
3   in response to the detection of a change in ambient light  
4   conditions.

1           4.    The method of claim 1 wherein measuring the  
2   ambient light conditions includes imaging an external  
3   device.

1           5.    The method of claim 1 wherein measuring the  
2   ambient white light intensity involves measuring the light

3 transmitted by a light emitting element coupled to said  
4 camera.

1 6. The method of claim 5 wherein measuring the  
2 ambient white light intensity includes moving a white light  
3 transmissive element into the optical axis of said digital  
4 camera.

1 7. The method of claim 1 wherein illuminating a  
2 plurality of lights involves illuminating at least four  
3 lights of different wavelengths.

1 8. The method of claim 1 wherein illuminating a  
2 plurality of lights includes illuminating at least five  
3 lights of different wavelengths.

1 9. The method of claim 4 further including using  
2 pattern recognition techniques to locate an external  
3 calibration device.

1 10. The method of claim 1 further including measuring  
2 the white light reflected by an external device and  
3 identifying indicia on said external device containing  
4 information about the optical characteristics of said  
5 external device.

1        11. The method of claim 1 wherein measuring the  
2 ambient white light intensity includes measuring the light  
3 transmitted through a device coupled to said camera and  
4 capturing information recorded on said device about the  
5 optical characteristics of said device.

1        12. An article comprising a medium for storing  
2 instructions that cause a processor-based system to:  
3                cause a measurement of the ambient white light  
4 intensity to be taken;  
5                illuminate a plurality of lights, each of a  
6 different wavelength;  
7                cause a measurement to be taken of the intensity  
8 of each of said lights together with the white light  
9 intensity; and  
10                calibrate said digital camera for the ambient  
11 lighting conditions using said measurement.

1        13. The article of claim 12 further storing  
2 instructions that cause a processor-based system to  
3 automatically measure the ambient white light intensity in  
4 response to a request for calibration.

1        14. The article of claim 12 further storing  
2 instructions that cause a processor-based system to  
3 automatically cause measurements of the white light

4 intensity to be taken in response to the detection of a  
5 change in ambient light conditions.

1 15. The article of claim 12 further storing  
2 instructions that cause a processor-based system to cause a  
3 measurements to be taken of the light transmitted by a  
4 light emitting element coupled to said camera.

1 16. The article of claim 12 further storing  
2 instructions that cause a processor-based system to use  
3 pattern recognition techniques to locate an external  
4 calibration device.

1 17. The article of claim 12 further storing  
2 instructions that cause a processor-based system to measure  
3 the white light reflected by an external device and  
4 identify indicia on said external device containing  
5 information about the optical characteristics of said  
6 external device.

1 18. The article of claim 12 further storing  
2 instructions that cause a processor-based system to measure  
3 the light transmitted through a device coupled to said  
4 camera and capture information recorded on said device  
5 about the optical characteristics of said device.

1           19. A portable device for calibrating a digital  
2 camera for varying ambient light conditions comprising:  
3           a housing having a white surface;  
4           a plurality of light emitting elements adapted to  
5 illuminate said white surface; and  
6           a control circuit adapted to sequentially  
7 illuminate said light emitting elements.

1           20. The device of claim 1 including indicia on said  
2 white surface containing coded information about the  
3 optical characteristics of said white surface.

1           21. The device of claim 19 including five light  
2 emitting elements, each emitting light of a different  
3 wavelength, said elements coupled to said control circuit.

1           22. The device of claim 21 including two light  
2 emitting elements emitting light of different wavelengths  
3 corresponding to a first primary color, two light emitting  
4 elements emitting light of different wavelengths  
5 corresponding to a second primary color and at least one  
6 light emitting element emitting light of the wavelength of  
7 a third primary color.

1           23. The device of claim 19 wherein said housing  
2 includes two slidably connecting housing portions, one of

3 said portions including said white surface and the other of  
4 said portions including said control circuit, a battery,  
5 and said light emitting elements.

1 24. A digital camera comprising:  
2 an imaging sensor having an optical axis;  
3 a white light transmissive plate mounted in the  
4 optical axis of said sensor and displaceable from said  
5 optical axis; and  
6 a plurality of light emitting elements adapted to  
7 illuminate said white light transmitting plate with light  
8 of a plurality of different wavelengths.

1 25. The camera of claim 24 wherein said white light  
2 transmissive plate is rotatable out of the optical axis of  
3 said sensor.

1 26. The camera of claim 24 including a plurality of  
2 light emitting elements arranged circumferentially about  
3 said white light transmissive plate.

1 27. The device of claim 24 including two light  
2 emitting elements emitting light of different wavelengths  
3 corresponding to a first primary color, two light emitting  
4 elements emitting light of different wavelengths  
5 corresponding to a second primary color and at least one

6 light emitting element emitting light of the wavelength of  
7 a third primary color.

1 28. The camera of claim 24 adapted to take a  
2 plurality of measurements and to correct color based on  
3 ambient light conditions.

1 29. The camera of claim 28 including a processor  
2 adapted to automatically correct color when a change in  
3 ambient light conditions is detected.

1 30. The camera of claim 28 including a processor  
2 adapted to automatically correct color when an input signal  
3 is received indicative of a calibration request.